

## **The Future of the Nuclear Non-proliferation Treaty (NPT) Regime**

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What is the threat of nuclear proliferation and terrorism today? How is it likely to evolve in the years ahead? Is the international nuclear nonproliferation regime that was created during the Cold War capable of confronting the threats of today and tomorrow? Is the regime, the centerpiece of which is the Treaty on the Nonproliferation of Nuclear Weapons (NPT), in crisis? If so, what is the nature and cause of the crisis? These issues at the heart of William Walker's essay are crucial, and are considered in the following text.

The Cold War superpower competition that dominated international politics in the latter half of the 20<sup>th</sup> century ended peacefully. The Cold War will not be missed, but with it disappeared an extraordinary level of stability. The unstable world that has emerged since is marked by the horrors of September 11, 2001 and the train bombings in Madrid, the North Korean nuclear test and the Iranian march to a nuclear bomb, and the prospects of technological and other strategic surprises.

In the context of rising regional instability and conflict, along with increased incidents of global terrorism, in a dynamic, uncertain security environment, emerging nuclear and other weapons of mass destruction (WMD) threats—both proliferation and terrorism—are seen as growing dangers giving rise to increasing global insecurity.

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\* These remarks are the author's own and not those of the Los Alamos National Laboratory or any other U.S.G. agency.

Many believe today that additional states as well as nonstate actors will obtain a nuclear-weapon capability or nuclear weapons, and that these weapons are more likely to be used than in the past. So-called rogue states are seen as irrational, and possibly as undeterrable. It is widely believed that the terrorists are certainly not deterrable: “if they have them, they’ll use them.”

One scenario—retro to the 1940s and ’50s—invokes the notion of nuclear anarchy or a “nuclear-armed crowd.” It would postulate, taking into account the developments of the last 50 years:

- a climate of pervasive insecurity;
- widespread proliferation and an overriding fear of nuclear terrorism, with the prospect of use;
- the development of latent nuclear capabilities (as a hedge) by all states that can do so, with many states moving to develop and deploy nuclear weapons;
- the reversal of nuclear arms reductions and the emergence of new arms races;
- growth in the significance of defenses, both active and passive;
- the collapse of the NPT, the International Atomic Energy Agency (IAEA) and other elements of the nonproliferation regime or, more likely, their increasing irrelevance;
- the disappearance of the normative value of the treaty/regime along with questions raised about the authority and legitimacy of ad hoc, self-help actions including preemption, prevention, etc.; and

- concern about the dangers of utilizing nuclear energy, except under extraordinary security, with grave economic, environmental and other consequences.

The developments and trend lines from which this scenario is extrapolated are familiar, and certainly worrisome. The proliferation problem today is serious. In 1997 or early 1998, one would have had a very different impression of the nuclear proliferation threat, and of the future prospects of the regime. At that time, the worst fears about the breakup of the Soviet Union—the prospect of four nuclear-weapon states emerging from the ashes—were not realized. An unprecedented problem had been managed via unprecedented efforts to deal with loose nukes, the brain drain, and so on. The list of “usual suspects” was decreasing—Argentina, Brazil, and South Africa gave up programs or weapons. The Nonproliferation Treaty was extended indefinitely. Efforts to strengthen IAEA safeguards resulted in the Additional Protocol, which was designed to fix the problems that Iraq’s illicit program revealed in the early 1990s. Other positive trends could be noted. Serious problems remained, including the three NPT holdout states and states that broke their nonproliferation obligations, but to many these problems appeared manageable.

Following the 1998 nuclear tests in South Asia and later reinforced by September 11, there has been growing concern about increasing proliferation dangers. From where do current proliferation concerns stem? Areas of concern include Iran’s suspicious and extensive WMD programs, especially its nuclear and missile activities. The discovery of the large enrichment facility at Natanz as well as other clandestine activities revealed two

decades of Iranian noncompliance with its international obligations. North Korea's nuclear test and its diplomatic brinkmanship prior to the breakthrough in the six-party talks in early 2007 highlight the dangers of its longstanding nuclear and missile programs and missile exports and the difficult task of disarmament ahead. South Asia, which became a primary area of concern following the Indian and Pakistani nuclear and missile tests in the late 1990s and the specter of dangerous nuclear arms and missile races on the subcontinent along with the prospect of battlefield and strategic use.

The growing reality of cooperation among rogue states is especially troubling. The WMD and missile cooperation between North Korea, Pakistan and Iran has been examined in the open literature. The question is whether that cooperation was limited to these or a few other states or provides a blueprint for the future. Clearly, there are a growing number of states that now possess or are developing WMD- and missile-related technological capabilities and expertise. Will these capabilities be shared, and under what if any constraints? Will they wind up in black markets? In either case, they will erode export control efforts like the Nuclear Suppliers Group (NSG).

To these country concerns may be added:

- technology diffusion via the Internet as well as through loose nukes, materials leakage and brain drain in the former Soviet Union, Pakistan and other states and through non-state actors like the A. Q. Khan network;
- concerns about Chinese and Russian nonproliferation commitments and behavior, including continuing issues involving nuclear and missile export behavior; and

- the security of nuclear and missile technology, materials and expertise in Russia and the other Soviet successor states, as well as in such states as South Africa, Argentina and Brazil.

The prospects of radiological/nuclear terrorism are seen to be rising—concern over a proliferation/terrorism nexus after 9/11 has never been higher. Speaking at The Citadel three months after the tragic events of September 11<sup>th</sup>, President Bush revealed that “almost every state that actively sponsors terror is known to be seeking weapons of mass destruction and the missiles to deliver them at longer and longer ranges...we must keep the world’s most dangerous technologies out of the hands of the world’s most dangerous people.”<sup>1</sup>

Beyond today’s concerns, there is a second tier of states that, it appears, might consider nuclear or other weapons of mass destruction in the future, including Ukraine, Kazakhstan, Nigeria, Egypt, Saudi Arabia, Turkey, Japan, South Korea, Taiwan and Indonesia. Surprises may also occur with respect to proliferation and terrorism. The conditions under which one could envision widespread proliferation in the longer term depend on such factors as globalization, technology diffusion, regional and international security environments (particularly changes in Russia and China) and the like.

These problems are serious. However, the worst-case scenario outlined above is not the only—and not the most likely—outcome.

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<sup>1</sup> Remarks on the War Effort by the President at the Citadel, The Citadel, Charleston, South Carolina, December 11, 2001. <<http://www.whitehouse.gov/news/releases/2001/12/20011211-6.html>>

New developments, actions and measures are not fully factored into this assessment, including, among others, the impacts of:

- successful threat reduction and rollback cases over last 15 years, including Libyan disarmament;
- Cooperative Threat Reduction (CTR) programs, the Proliferation Security Initiative (PSI), the Global Threat Reduction Initiative (GTRI) and other new initiatives, as well as proposed nonproliferation strengthening measures;
- growing concerns about the threat in international community, including the growing realization that this is an issue of international peace and security; and
- potential leverage in combating proliferation and terrorism that may come with new monitoring and verification as well as other technologies.

The worst-case scenario also fails to fully take into account other factors. Unanticipated developments, or surprises, that could change this picture for better (or worse), including:

- geopolitical changes, both positive and negative;
- technological changes, particularly new ways to produce nuclear-weapon materials and new detection echnologies; and
- proliferation or terrorism events, such as
  - withdrawals from the treaty,
  - further nuclear tests,
  - sales of nuclear weapons or materials,
  - interdictions and
  - nuclear use by states or terrorists.

In any event, under any realistic scenario we are living in a dangerous world. Faced with the prospect of nuclear proliferation and terrorism threats, what is to be done? From a US perspective, proliferation has been seen from the beginning as a global problem. Responses to the threat in the nuclear realm have been primarily global in nature, including the Baruch plan (based upon the Acheson-Lilienthal report), which failed in the maelstrom of the emerging Cold War; the Atoms-for-Peace initiative, a modest proposal that traded off access to civil nuclear technology for restraints on military applications; the International Atomic Energy Agency, envisioned in the Atoms for Peace proposal; and the Nuclear Nonproliferation Treaty.

Global treaties and institutions are supported by export controls, national laws and regulations, economic and security assurances, sanctions and regional arrangements of various types, including nuclear-weapon-free zones.

A decades-long debate has been taking place on the question of whether the nonproliferation regime has been successful. The global treaty approach has been important for setting norms concerning nuclear and other weapons of mass destruction and missiles, and the treaties have been influential in redefining thinking about the problem. In this context, international interest in strengthening the various global treaty regimes designed to control or eliminate weapons of mass destruction has grown, but the issues have been difficult and the results limited. For example, efforts to improve international nuclear verification are being undertaken by the International Atomic Energy Agency to improve the effectiveness and efficiency of safeguards for NPT parties. While widely supported, expectations may be unduly high because of the inherent

difficulties of detecting clandestine nuclear facilities and activities. Although all the nonproliferation regimes face similar, albeit clearly not identical, challenges, the debate may ultimately hinge on the fate of the NPT regime, as many have seen the problems encountered at the 2005 NPT Review Conference in New York a harbinger of the treaty's decline. In this context, let us examine the prospects for the NPT, along with its relevance for current and future efforts to deal with nuclear proliferation and terrorism threats.

In a world fundamentally different from that in which it emerged, the NPT and the broader international nuclear non-proliferation regime, is challenged by:

- new weapon states, which cannot be accommodated within the treaty and affect the views of key non-nuclear states such as Japan and Brazil;
- North Korean withdrawal from the treaty and, more generally, by Article X, which allows states to withdraw;
- North Korea's nuclear test and the limited international response;
- Iranian programs, which are not compliant with the treaty's provisions and beyond that—a point that is directly related to the Atoms-for-Peace bargain—have the potential to create a virtual weapon capability;
- concerns about growing noncompliance and limited consensus on compliance enforcement;
- growing access of states (and nonstate actors) to sensitive materials and technologies and the rise of virtual or latent weapon programs;
- the issue of the NPT's relevance to activities by nonstate actors, including black marketeers and potential nuclear terrorists;



- the tensions between reemerging commercial interest in the civil nuclear fuel cycle and nonproliferation aims, reflected in a revived debate over Article IV of the NPT;
- the increasingly bitter Article VI debate, involving the Comprehensive Test Ban Treaty (CTBT), a fissile material cut-off treaty (FMCT), concerns about progress in arms control efforts and perceptions of the US Nuclear Posture Review (NPR).

Other elements of the regime are also under pressure. The IAEA is restricted by the limits of its verification mandate and burdened by noncompliance issues, which raise questions about the value and effectiveness of international safeguards in some quarters. The Additional Protocol is an important new tool. Although most states with significant nuclear activities have now brought the Additional Protocol into force, there remain a large number of states that have not yet ratified the Additional Protocol. The Agency and member states are trying to remedy this situation.

The Nuclear Suppliers Group faces erosion. NSG rules need to be reinforced and strengthened. There is reason to be concerned about Russian and other countries' exports to proliferant States. The U.S.–Indian agreement of 2005 could require fundamental changes in the way that the NSG does business. Concerns have been raised that the arrangement will weaken the NSG's requirement of full-scope safeguards and open the door to similar trade with Pakistan. Whether the NSG will make a one-time exception for India or enact broad changes in its guidelines remains to be seen. Technology diffusion, black markets, and lateral proliferation also raise questions about the long-term relevance

of the NSG as these developments show that nuclear supply is no longer the preserve of a few advanced industrial states.

The United Nations Security Council was seen as the last great hope in addressing proliferation problems, including the North Korean crisis of the early 1990s. However, there was and is limited consensus within the Council on enforcement and none on the use of force. The Council was paralyzed in Iraq. Until recently, it was also unable to act in Iran and in North Korea. Will it ultimately be effective in implementing North Korean sanctions? Will it be able to respond to Iranian defiance of its demands?

As noted, the NPT and the international nuclear nonproliferation regime were created in a different time to deal with different threats. All of the problems with, and stresses on, the regime pose real challenges and have been seen in some quarters as portending the regime's collapse or increasing irrelevance. It would be folly to act as if these problems did not exist, or that they could be adequately addressed using exclusively old measures and approaches or resolved merely by muddling through. In the face of these developments, do we need regime change—a change in the NPT regime? It seems the calls for regime change, which, at least until the last two or three years, have been voiced at a level not heard before, are rational. They are certainly understandable.

Is it possible to create something better, however? There has, for example, been considerable interest in a revived (and revised) Baruch Plan for over a decade, as well as some interest in a Nuclear Weapons Convention (NWC). There is reason to be skeptical

of the prospects for such proposals or for any efforts to fundamentally alter the regime. Current institutions and treaties still command significant international support and consensus—such consensus as exists. But consensus is largely limited on tough issues and difficult cases. This suggests little prospect that entirely new institutions would more effectively deal with these issues than the existing regime.

As opposed to putting forward alternatives to the nonproliferation regime, the regime is essential to current and future nonproliferation efforts and needs to be maintained and strengthened, not replaced. It must be reformed. President Bush's landmark February 11, 2004 nonproliferation speech, recognized this need and offered initiatives to, inter alia:

- take practical steps to limit fuel cycle risks by a ban on new states from developing reprocessing and enrichment technologies;
- strengthen export controls, especially for sensitive technologies;
- require the Additional Protocol as a condition of supply;
- deal with noncompliance in part through reforming the IAEA's Board of Governors ; and
- build on successful CTR and PSI actions.

The U.S.–Indian Civil Nuclear Cooperation agreement was also an effort to deal with the current problems with the regime by bringing India into the fold to the extent possible. The deal is the first of its kind with one of only three non-signatories to the NPT. Some fear that offering the benefits of Article IV to India makes the NPT “bargain” less valuable, and may lead states to rethink their commitments. The ultimate impact on

the regime and on arms control more broadly will be determined by its details and by future Indian, and other states,' actions. If fuel supply provisions in the agreement lead to an expansion of India's nuclear arsenal, history will judge the agreement to have been a mistake. If, on the other hand, the agreement leads to a vested Indian interest in the regime and its constraints, and perhaps even draws China and Pakistan into regional arms control talks, it could produce valuable benefits to the regime.

The Bush administration's Global Nuclear Energy Partnership (GNEP) builds on earlier initiatives to strengthen the regime. GNEP would limit enrichment and reprocessing activities to states which currently possess those capabilities. In exchange, these states would take back spent fuel from states with only reactors, potentially for ultimate disposal. The inherent difficulty of dealing with latent proliferation scenarios is recognized and addressed through the elimination of national facilities. If satisfactory institutional and economic arrangements can be reached under GNEP, concerns over latent proliferation and overburdened safeguards capabilities could also be addressed.

These and other initiatives reveal an ambitious nonproliferation agenda that shows that the Bush Administration is trying to understand and adapt to the new international strategic environment confronting the United States and the world. American leadership is required to address the new threats—in concert with others if possible but alone if necessary. The willingness to employ US power in Afghanistan, Iraq and elsewhere has created a widespread sense that it is rushing ahead pell-mell on a unilateralist course across its foreign and defense policies, as well as in other areas.

Contrary to the cowboy caricatures of President Bush's foreign policy, the approach of the Administration to nonproliferation is predicated on partnerships—both creating new ones and strengthening existing ones. America may possess an unrivaled position of power in the contemporary era. But it cannot meet the nuclear or other global challenges of the 21st century alone. The reality is that the Bush Administration, like all of its predecessors since the dawn of the nuclear age, is committed to the regime. Along with other proposals to reform the NPT regime in the last few years, the Bush initiatives are responsible for reducing the calls for a radical restructuring or replacement of the regime. Reflecting in part the problems addressed by the Bush initiatives, there are a number of areas where there is a growing consensus on the need to act, if not also on the best approaches. The priority given by the Bush Administration to addressing noncompliance with nonproliferation agreements, which is increasingly a point of contention between the United States and its friends and allies, might differ somewhat under a different Administration, but any US president would have to face this issue.

Reforming or strengthening the regime requires serious efforts to deal with noncompliance. Enforcement of treaty obligations will be difficult, especially against determined proliferators, as coercive responses are not acceptable to many states.

There is also a need to address the structural problems of the treaty, especially with Articles IV and X. The so-called “loophole” in Article IV of the NPT, which allows states to develop indigenous nuclear capabilities and virtual weapon capabilities by

pursuing uranium enrichment and plutonium reprocessing under the cover of peaceful programs, must be closed by limiting access to sensitive nuclear technology, in particular enrichment and reprocessing, and offering inducements to achieve this goal. The withdrawal provisions in Article X of the treaty need to be revised to prevent noncompliant states from escaping the consequences of their actions.

In addition to strengthening the treaty itself, further strengthening of safeguards, including universalizing comprehensive safeguards agreements and Additional Protocols is important, as is staunching NSG erosion and strengthening export controls (especially on enrichment, reprocessing and other sensitive nuclear technologies). Expanding extra-regime activities/tools, including the CTR (to address real threats, and provide a model for future arms control), PSI and counterproliferation are also needed.

Developing and delivering better incentives for nonproliferation, i.e., dealing with the demand side is also critical. Assured supply has been put forward as an inducement to nonproliferation. Assured fuel supply involves a collective obligation to states. To succeed, it should have front- and back-end features, and the “carrot” value of dealing with disposing of spent fuel might be more attractive than ensuring continued fresh fuel supply. Any credible approach must convince recipients that it can count on supply, and that there will be no introduction of extraneous political factors into a decision to provide the fuel.

Multinational or multilateral ownership has been proposed by IAEA Director General Mohamed ElBaradei as a means to address this issue. Such approaches have failed before, but there are key differences in the situation today from that of the earlier considerations of various proposals, including a more widespread sense of insecurity; the rise of new, illegitimate sources of supply, including black marketers; evidence of NPT noncompliance and the use of the Article IV loophole; and the prospect of nuclear terrorism. In any event, the viability of current proposals depends ultimately on common interests (commercial, political, industrial, etc.). They cannot be imposed from the top down, nor should they interfere with market mechanisms.

Against such initiatives, it has been argued by critics that US policies embodied in the Department of Defense's Nuclear Posture Review of December 2001 and national security strategy documents will undermine the regime. In the case of the NPR, there is a perception of increasing US emphasis on nuclear weapons, including a desire for new weapons and new testing. This will make weapons more attractive to proliferators, it is argued.

The Nuclear Posture Review caused a stir when some of its contents were first leaked to the press. In contrast to the criticism that the NPR heralded a nuclear-armed America intent on developing and using nuclear weapons, the NPR's commitment to reduced numbers and roles for nuclear weapons reflects the United States' reduced reliance on nuclear forces after the Cold War ended and other factors. In this sense, the NPR's vision of nuclear roles is evolutionary. But it has revolutionary elements as well. Some have

claimed that this NPR, unlike the one of 1994, did not reduce the role of nuclear weapons or even expands their role. However, such criticism does not seem fully to recognize that it removes nuclear weapons from the center of deterrence and defense strategy.

Moreover, the NPR did not call for new nuclear weapons. The Reliable Replacement Warhead (RRW) program is examining the feasibility of providing replacement components for legacy warheads. The RRW program will not create new capabilities. Moreover, by relaxing Cold War design constraints, RRW will help ensure long-term confidence in reliability and reduce the prospects that the United States would ever need to carry out another nuclear test.

The NPR envisions not only lower numbers of nuclear weapons, but also the replacement of certain nuclear missions with conventional capabilities. The NPR assumes that conventional forces will be able to accomplish some current nuclear missions, although it is understood that other missions will continue to require nuclear forces for the foreseeable future. Finally, defenses are seen to play a growing role in deterrence and dissuasion.

The NPR also delinks (decouples) the US force posture from that of Russia. Under the NPR, the United States will no longer plan, size or sustain forces based solely on the Russian threat. The US is working to encourage a cooperative, nonadversarial relationship with Russia that sets aside Cold War hostilities and antagonisms and ends the outdated notion of mutually assured destruction (MAD). Beyond political and diplomatic considerations, US nuclear requirements are *not* the same as those of Russia. The United States and Russia are different, with divergent nuclear needs and obligations. As a



result, delinking US and Russian forces from each other in the strategic and the arms control contexts is viewed as important. As noted, US numbers and capabilities need no longer, it is argued, be directly tied to Russian forces. Nevertheless, the quantity and composition of Russian nuclear forces do affect future US security and it is in the US interest to have a window on their status (and changes in that status), if not also to see these weapons controlled in some fashion.

There is the perception of an end to United States interest in arms control as well. The Moscow Treaty is viewed by critics as a farce. Nothing could be further from the truth. Reflecting new thinking about the future of nuclear weapons, the number of operationally deployed strategic nuclear forces will be reduced under the Moscow Treaty to 1700-2200 by 2012. After 2007, the reductions will be achieved via downloading. The goals of the Moscow Treaty were achieved because it was a new type of negotiation, which did not reflect the adversarial stances taken during cold war arms negotiations. In this and other ways, this treaty is different from Cold War era treaties. Its counting rules are more straightforward than the sometimes-arcane rules used for Cold-War treaties. Its substance *is* significant and signals fundamental changes in the role of nuclear weapons and arms control in the 21<sup>st</sup> century security environment. Under START and the Moscow Treaty, the United States will have eliminated or decommissioned more than three-quarters of its deployed strategic nuclear warheads over two decades.

The retention of warheads in the responsive force has been criticized. As with previous formal agreements, the disposition of warheads is not specifically addressed in the

Moscow Treaty. However, the 2004 stockpile decision will reduce the total stockpile by nearly a half in 2012, resulting in the smallest stockpile since the Eisenhower Administration. Even at those levels, the size of the responsive force still reflects, in part, problems with the US nuclear-weapon complex.

In addition to its other benefits, the RRW program offers a path for transforming the US nuclear-weapon research and development (R&D) and production infrastructure to make it more efficient and responsive. Once it is clear that the infrastructure can respond in a timely fashion to new geopolitical threats or to technical problems in the stockpile, then it becomes possible to undertake further reductions in non-deployed warheads to meet the President's vision of the smallest stockpile consistent with US security.

While US policies have been misunderstood and often mischaracterized, cooperative threat reduction (CTR) activities are not usually given their due. Yet US-Russian efforts to reduce nuclear dangers constitute a real success story. Since 1992, the United States has provided over \$8 billion in nonproliferation and threat reduction assistance to the former Soviet Union. The G-8 Global Partnership pledged up to \$20 billion over the next 10 years for nonproliferation, disarmament, counterterrorism and nuclear safety. Priorities include plutonium disposition and chemical weapons destruction in Russia. With this effort, the United States has helped eliminate ballistic missiles, strategic bombers and ballistic missile submarines. As well, over 6000 Russian nuclear warheads have been deactivated.

These programs have led to greater security for and even partial elimination of Russian weapon-origin material. More than 200 MT of highly enriched uranium (HEU) from Russia's dismantled nuclear weapons have down blended for use in US nuclear power plants—enough material for about 8000 nuclear weapons. The United States and Russia have committed to disposing of 68 total tons of excess weapons-grade plutonium by burning in mixed oxide (MOX) reactors (34 tons each from both Russia and the United States).

As a consequence of all these factors, there is a perception that the US strategy demonstrates that the US commitment to multilateral nonproliferation is eroding, and that the United States is unduly focused on unilateral solutions, including preemption, that will undermine such regime elements as negative security assurances and the like. Critics paint a picture of the end of world order, of collapsing institutions and norms, of ensuing chaos, of grave dangers, etc. This view does not appear supported by reality. One merely has to look at predictions surrounding the consequences of US withdrawal from the anti-ballistic missile (ABM) Treaty. But the case is positive and stronger than is recognized. As suggested, there have been significant, successful efforts over the last fifteen years to reduce the number and roles of nuclear weapons through arms accords and unilateral actions, to rethink deterrence in light of transformed US-Russian relations and to diminish the nuclear dimension of great power competition. But, in this area as in others, the world of the early 21<sup>st</sup> century is not what was predicted—or expected--by many in the 1990s. This led to disillusionment about the pace and scope of change, but it should not have blinded observers to the reality of change. The charges of the critics do not

reflect the reality of either US nuclear policy or its arms control effects. While setting a strategic course in changing times, they are fully consistent with the US commitment to Article VI of the NPT.

Looking at the threat landscape of today, and its implications for the international nuclear nonproliferation regime, it is impossible not to conclude that, whatever its value, the regime was created in a different time to deal with different threats. It has been the basis of international consensus and, for all its problems, it is likely to be with us as we think about dealing with today's and tomorrow's proliferation problems. With reforms, the regime can provide the foundation for future nonproliferation efforts, including the commitment to finding institutional means to enhance the proliferation resistance of civilian nuclear power programs and efforts to combat terrorism.

But the value of the regime goes beyond combating proliferation. Directly or indirectly, it can play a growing, albeit limited, role in preventing nuclear terrorism. It should not be surprising that efforts to control proliferation, including the NPT, can play a role in preventing nuclear terrorism. To the extent that the NPT works to prevent an increase in the number of states with nuclear weapons, it decreases opportunities for the emergence of new weapon states with possibly inadequate security measures.

The NPT also can play a positive role in preventing terrorism through controls on nuclear materials. The NPT has provided a basis for ongoing efforts to control these materials

and there are proposals from the United States, the IAEA and others to impose greater controls on sensitive fuel cycle activities—specifically, enrichment and reprocessing.

Moreover, as NPT safeguards involve state systems of accounting and control, safeguards can provide a line of defense against nuclear theft, and could offer a degree of early warning of the loss of materials that may be used in an improvised nuclear explosive device.

In this fashion, the NPT, if fully implemented, can function as one of many lines of defense against nuclear terrorism, by reducing access to or the availability of nuclear weapons and materials. This highlights the importance of compliance with the treaty, including the need to address clandestine procurement networks that can be exploited by terrorists. Other elements of the regime and extra-regime activities are also addressing this problem, including IAEA programs, CTR, PSI, GTRI, the Global Initiative to Combat Nuclear Terrorism, UNSC Resolution 1540, amendments to the Convention on the Physical Protection of Nuclear Material and so on.

It is clear that since 9/11, there has been considerable progress through these and other efforts to improve the security of nuclear and radiological materials; to strengthen controls over these materials; to educate governments, publics and industries on the dangers of nuclear and radiological terrorism; and to expand the norms and measures developed to combat proliferation into the counterterrorist realm.

More needs to be done, however. There is a need—on counterterrorism as well as nonproliferation grounds—to continue to strengthen the NPT by such actions as promoting the universality of Additional Protocol, by tightening export controls and by addressing noncompliance more vigorously. It is also essential to support the CTR, PSI, GTRI and other initiatives; this should have not only nonproliferation but also counterterrorism benefits. In addition, states should support IAEA efforts to address nuclear terrorism, as well as promote the effective implementation/enforcement of Resolution 1540.

Given the stakes involved, in addressing terrorism as well as proliferation, the states with an interest in the existing regime—particularly the United States—must recognize regime problems and manage them. Safeguards, export controls and compliance enforcement will be critical. Efforts to strengthen the regime along lines of the President's February 11<sup>th</sup> initiatives and other initiatives will be critical if the regime is to meet the challenges of the future. There are no “silver bullets,” however.

Challenged by new realities, the structure of the international nuclear order is being revisited by the Bush Administration. Everything from cooperative threat reduction to the need for new burden sharing involving diplomatic, economic and other instruments to address noncompliance is on the table. Rebuilding is necessary, but any lingering temptations to raze everything must be resisted. Over time, United States' actions can provide the foundation for new and reformed nonproliferation institutions and values that will ensure common security and, by enabling the growth of nuclear power, energy

security and prosperity in the long term. This suggests a political component of globalization and the Administration is arguably, on the basis of its actions if not always its words, thinking in these terms. From an American perspective, pursuit of new nuclear institutions and norms is in US interests. This project will be viewed more seriously throughout the US political spectrum if there is demonstrable international respect for efforts to ensure credibility of, and compliance with, extant treaty-based norms and institutions. Unfortunately, there is not yet a consensus on dealing with this difficult matter.

Reform and strengthening efforts are critical but, as suggested, they are only a part of the picture—and probably not the most important part of efforts to combat nuclear proliferation and terrorism. All of these efforts can reinforce—and will be reinforced by—other counterterrorism and counterproliferation efforts, including possible efforts to deter, dissuade and defend against nuclear proliferation and terrorism. The normative and legal weight of the regime is important for counterterrorism as well as nonproliferation, but it will not likely directly affect the behavior of rogues and terrorists. Preventing them from achieving their objectives if they attempt to wield nuclear and radiological weapons may deter and dissuade them, as may a credible prospect of punishment.